ABSTRACT

An optical encoder utilizes a photodetector array having at least two photodetectors with different surface areas that generate different amounts of photocurrent when they are simultaneously lit by an LED. Because the photodetectors generate different amounts of photocurrent when simultaneously lit, the photodetectors produce unambiguous results that can be used to index a coding element such as a codewheel. Another optical encoder utilizes one index photodetector that is aligned with an index track and another index photodetector that is aligned with a position track of a coding element to index the coding element.